


SYNDROME "X"

WHAT IS “SYNDROME X”

- A term that is used to describe a collection of health risk conditions that greatly  the chance of developing a stroke, heart disease, and/or diabetes.
- Is also known as the “Metabolic Syndrome”
- According to a national survey, about 1 of every 5 Americans has Syndrome “X”

What Causes Syndrome “X” ?

- Exact cause is unknown
- Some researchers feel it is caused by one's:
 1. genetic makeup
 2. lifestyle choices
 - a. Types of food one eats
 - b. One's level of physical activity

SOME RISK FACTORS FOR ACQUIRING SYNDROME “X”

- High triglycerides
- Low HDL cholesterol
- Insulin resistance (glucose intolerance)
- Central obesity
- Raised blood pressure
- High fibrinogen or plasminogen activator inhibitor in blood
- Elevated high-sensitivity C-reactive protein in the blood

<http://www.mercola.com/2000/oct/29/fibrinogen.htm>

http://en.wikipedia.org/wiki/C-reactive_protein

How is Syndrome “X” Diagnosed?

**** According to studies, Syndrome “X” is identified by 3 or more of the following components. ****

- 1. waistline = 40” men
waistline = 35” women**
- 2. blood pressure = 130/85 mmHg**
- 3. triglyceride levels > 150 mg/dL**
- 4. fasting blood glucose (sugar) level > 100 mg/dL**
- 5. HDL (high density lipoproteins) < 40 mg/dL men
< 50 mg/dL women**

Syndrome “X” is Closely Associated With Pre-Diabetes

- Pre-Diabetes is the in-between stage for people who have higher than normal blood glucose levels but not yet high enough to be diagnosed as diabetes.
- This is the stage before “NO RETURN”
- Currently, there is NO cure for diabetes.
- Lifestyle changes need to be made NOW!!

Two Tests to Determine Pre-Diabetes

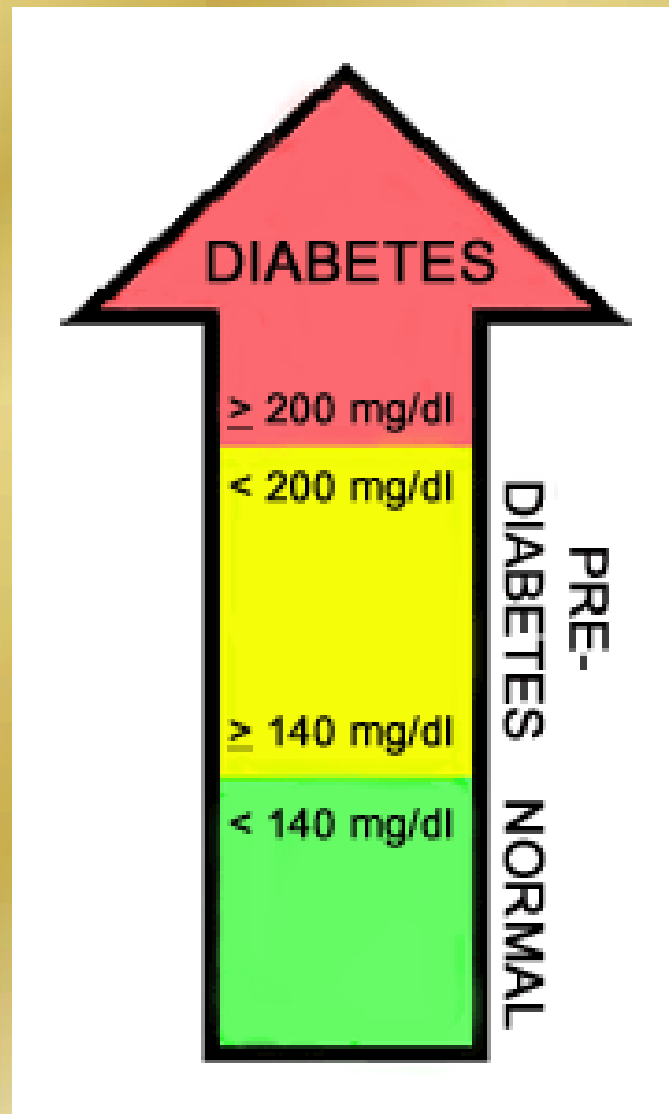
1. Fasting plasma glucose test (FPG)

- » Measures your blood glucose after you have gone overnight without eating
 - * **100 – 125 mg/dL** are above normal but not high enough to be called diabetes (pre-diabetes)
 - * **should be below 100 mg/dL (diabetes = > 126 mg/dL)**

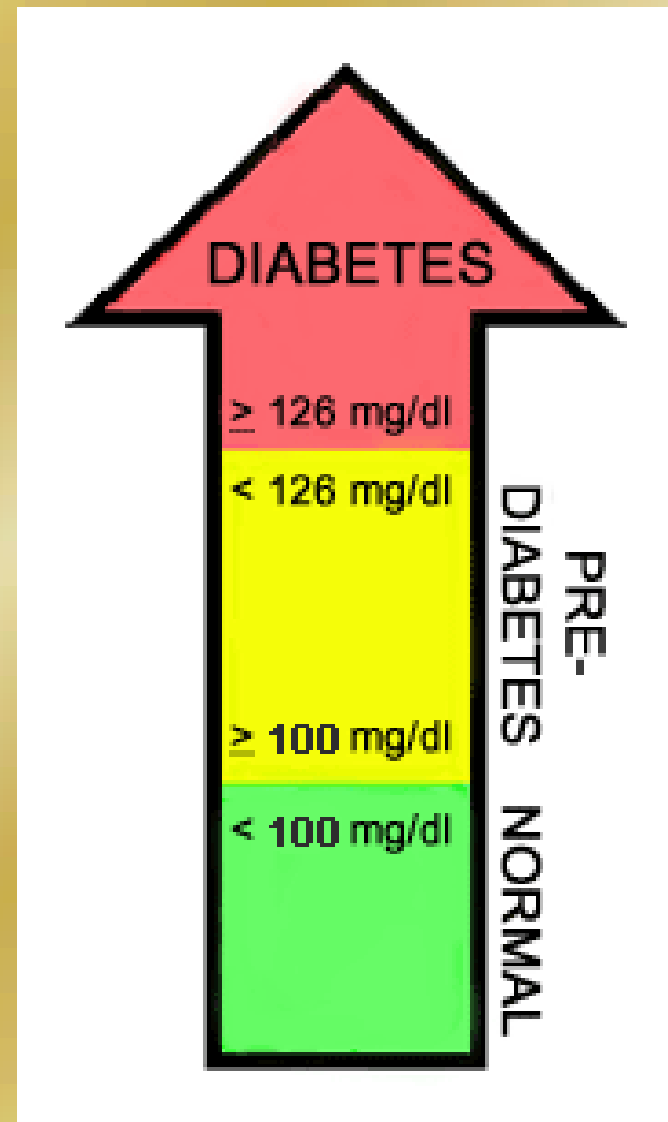
2. Oral glucose tolerance test (OGTT)

- » Measures your blood glucose after an overnight fast and 2 hours after you drink a sweet liquid provided by the doctor or laboratory
 - * **140 – 199 mg/dL** 2 hours after drinking the liquid is above normal but not high enough to be called diabetes
 - * **should be below 140 mg/dL (diabetes = > 200 mg/dL)**

BLOOD GLUCOSE LEVELS



**ORAL GLUCOSE
TOLERANCE TEST
RESULT CHART**



**FASTING PLASMA
GLUCOSE TEST
RESULT CHART**

What Can Pre-Diabetes Cause?

- If not taken care of, pre-diabetes can cause insulin resistance over-time
- This in turn may lead to Type II Diabetes
- If one is diagnosed as pre-diabetic, it does NOT necessarily mean that they will become diabetic
- Exercise can still help reverse the damage caused by the ineffective insulin.

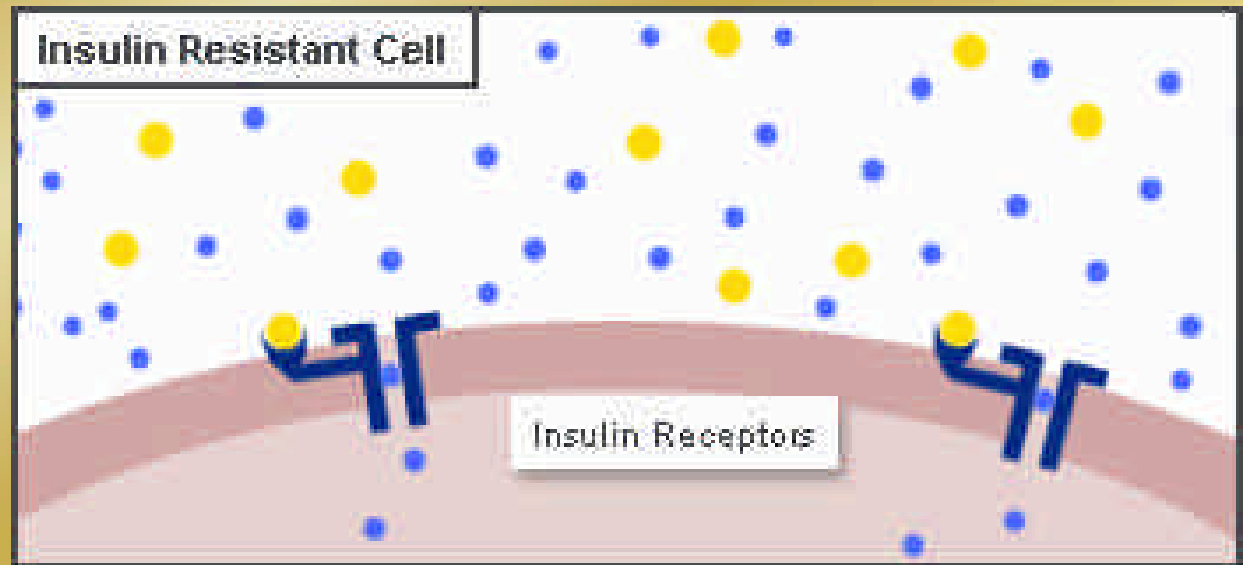
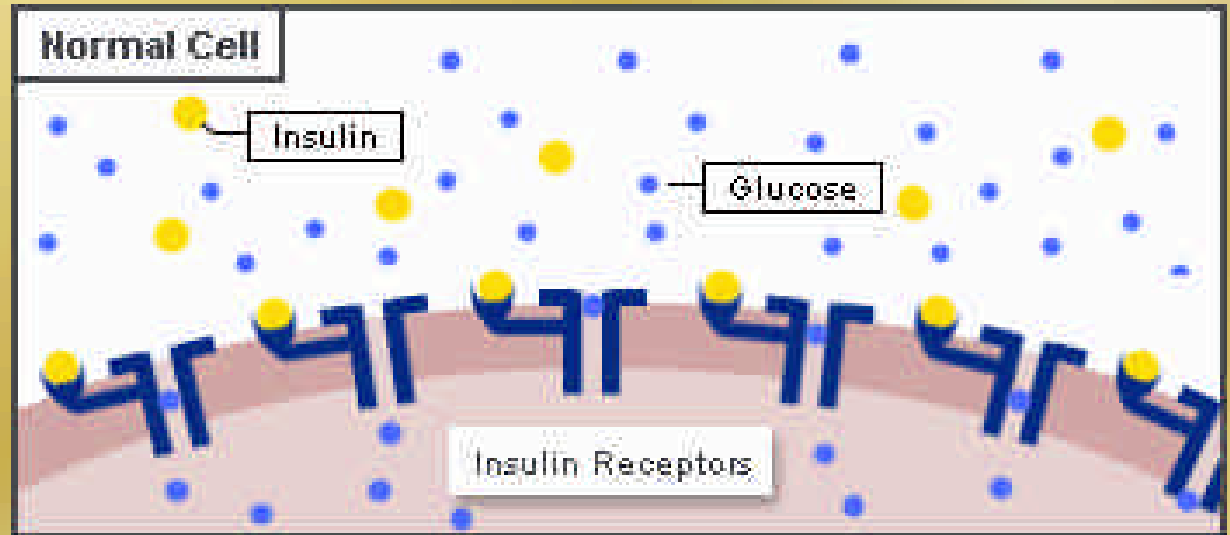
What is Insulin ?

- a hormone excreted from the pancreas
- causes your body's cells to absorb glucose (sugar) from the blood to be used as energy
- When one's cells become insulin resistant, they are no longer able to absorb the sugar in your one's bloodstream. End result: blood sugar levels become elevated.
- With insulin resistance, this sugar now can sit in your bloodstream instead of being used as a source of energy to do daily activities.
- Fatigue can occur

WHAT IS INSULIN RESISTANCE ?

When we eat food, the pancreas releases insulin which attaches to a cell's receptor site and causes the entry of glucose into the cell. This causes the efficient burning of glucose within the cell.

Insulin Resistance is the condition that results when factors cause the number of insulin receptors on your cells to decrease. Without enough insulin receptor sites on your cell's surface, glucose cannot properly enter the cell and instead it remains in the blood stream **(often causing elevated blood sugar)**.



WARNING!!!

With elevated blood sugar, glucose is then sent to the liver where it is converted to fat, which is then stored in excess throughout the body.

- **On estimation, the average person has 20,000 insulin receptor sites per cell**
- **Research has shown that if the surface of one's cells has too few insulin receptor sites, one's ability to lose weight may be severely compromised.**
- **The average overweight individual only has ~ 5,000 insulin receptor sites per cell**
- **The physiological consequence of having too few insulin receptor sites / insulin resistance:**
ELEVATED BLOOD SUGAR !!

Insulin Resistance Contributes to Weight Gain in 5 Ways !

- 1. Less glucose is converted to energy; higher amounts are stored as fat.**
- 2. Because your body isn't properly converting food to energy, it demands even more food! Increase in excessive eating.**
- 3. Fatigue occurs due to decrease in energy supply**
- 4. Over time, as insulin resistance increases, so will your body's inability to process foods correctly even more! MORE weight gain!**
- 5. Eating binges will occur.**

What Causes Insulin Resistance?

- Excessive carbohydrates
- Processed foods
- Fast food meals
- Preservatives
- Foods grown in mineral depleted soils
- Genetic predisposition
- Sedentary lifestyles
- Psychological stress
- High levels of physiological stress

Do You Have Insulin Resistance or Pre-Diabetes?

Anyone 45 yrs or older should consider getting tested for diabetes. If you are overweight and aged 45 or older, it is strongly recommended that you get tested. You should consider getting tested if you are younger than 45 years, overweight, and have one or more of the following risk factors:

- family history of diabetes
- low HDL cholesterol and high triglycerides
- high blood pressure
- history of gestational diabetes (diabetes during pregnancy)
- gave birth to a baby weighing > 9lbs
- minority group background

Can You Reverse Insulin Resistance?

- **YES !!!!**
- Losing weight and adding exercise to your life may help the body respond better to insulin.
- One may avoid developing Type II Diabetes with exercise.
- Be active and eat well !!!
- Stop smoking.
- If unaware how to begin an exercise program, see a trainer to help create a realistic program designed specifically for you!
- You don't have to change all your habits at once. Pick **ONE** that you'd like to change and go for it!